

PATENT

Serial No. 10/523,386

Amendment in Reply to Final Office Action mailed on October 25, 2006

IN THE SPECIFICATION

Please amend the specification as follows:

Replace the paragraph on page 2, between lines 30-32 of the specification with the following:

A first embodiment of the optical disk system ~~according to the invention as defined in claim 2~~ is advantageous in that ~~said the~~ generator comprises a converter for converting voltages into currents.

Replace the paragraph on page 3, between lines 3-6 of the specification with the following:

A second embodiment of the optical disk system ~~according to the invention as defined in claim 3~~ is advantageous in that ~~said the~~ generator comprises a further converter for converting voltages into currents and comprises at least one capacitor located between both converters.

Replace the paragraph on page 3, between lines 16-19 of the

PATENT

Serial No. 10/523,386

Amendment in Reply to Final Office Action mailed on October 25, 2006

specification with the following:

A third embodiment of the optical disk system ~~according to the invention as defined in claim 4~~ is advantageous in that ~~said the~~ photo detector comprises at least four subdetectors, with ~~said the~~ optical disk system comprising, per subdetector, a variable gain amplifier, a slicer and two converters with a capacitor therebetween.

Replace the paragraph on page 5, between lines 26-31 of the specification with the following:

VGA 10 as shown in FIG. 3 function as follows. Through each diode D1,D2 a current flows equal to I, current source CS4 generates a current equal to 2I, and current source CS3 generates a current 2J. Then the voltage gain of this VGA 10 is equal to $V_{out}/V_{in}=J/I \cdot R_{out}/R_{in}$, with V_{out} being the voltage between the collector of T6 and ground, with V_{in} being the voltage between the ~~basis~~ bases of T7 and ~~the basis of~~ T8, with R_{out} being the input resistance (or an input resistor) of slicer 11 and with R_{in} being equal to R_1 or R_2 .

PATENT

Serial No. 10/523,386

Amendment in Reply to Final Office Action mailed on October 25, 2006

Replace the paragraph spanning pages 5-6, between page 5, line 32, and page 6, line 8 of the specification with the following:

Converter 13 as shown in FIG. 4 functions as follows. The ~~basis~~ bases of transistors T17 and the ~~basis~~ basis of transistor T18 are coupled to the outputs of further converter 14. Transistors T17, T18 and R15 can be considered to be a transconductance amplifier for converting the voltage across capacitor 15 into a current $X \cdot d = 0,2 \underline{0.2} \dots \underline{0.2} \underline{0.2} \text{ mA}$. Through each transistor T12, T13, T14, T15 a current flows of for example $\underline{0.2} \underline{0.2} \text{ mA}$. Then through transistor T17 a current flows of $0 \dots \underline{0.4} \underline{0.4} \text{ mA}$, and through transistor T18 a current flows of $\underline{0.4} \underline{0.4} \dots 0 \text{ mA}$. Through transistor T19 a current flows equal to $2I$, and through transistor T20 a current flows equal to $2J$ (see VGA 10 in FIG. 3). Through each one of the diodes D12, D13 a current flows of $X \cdot (1-d) \underline{0.2} \underline{0.2} \dots \underline{0.6} \underline{0.6} \text{ mA}$, and through each one of the diodes D15, D16 a current flows of $X \cdot (1-d) \underline{0.6} \underline{0.6} \dots \underline{0.2} \underline{0.2} \text{ mA}$. With $0.2 \text{ mA} < X \cdot (1-d) < \underline{0.6} \underline{0.6} \text{ mA}$, it can be found that $\underline{0.5} < d < \underline{0.5} \underline{0.5} < d < \underline{0.5}$ and $X = \underline{0.4} \underline{0.4} \text{ mA}$, and by solving the mesh equation that $J/I = [(1+d)/(1-d)]^2$.

PATENT

Serial No. 10/523,386

Amendment in Reply to Final Office Action mailed on October 25, 2006

Replace the paragraph on page 6, between lines 13-16 of the specification with the following:

Further converter 14 shown in FIG. 5 comprises six transistors T21-T26, two diodes D21-D22 and a current source CS21 all coupled as disclosed. The ~~basis~~ bases of T25 and ~~the basis of~~ T26 form the inputs of further converter 14, and the collector of T25 and the collector of T26 form the outputs of further converter 14.

Replace the paragraph on page 6, between lines 17-20 of the specification with the following:

Slicer 11 shown in FIG. 6 comprises six transistors T31-T36, four diodes D31-D34, three current sources CS31-CS33 and two voltage sources V31-V32 all coupled as disclosed. The ~~basis~~ bases of T34 and ~~the basis of~~ T35 form the inputs of slicer 11 and the emitter of T33 (or of T36) forms the output of slicer 11.